Product Brief

LSI SAS 9200-16e

Sixteen-Port 6Gb/s PCI Express SATA+SAS Host Bus Adapter

APPLICATIONS

- External storage connections
- Mid to high-end servers
- Cloud computing

TYPICAL USES

- Tiered SATA and SAS RAID systems
- Large-scale external JBOD enclosures
- Storage expansion

KEY FEATURES

- 6Gb/s per port data transfer rate
- Four x4 Mini-SAS external connectors (SFF8088)
- x8 PCI Express 2.0 host interface
- Allows up to 512 SAS or SATA endpoint devices
- High performance IOP
- PowerPC 440 @ 800MHz
- Power management support
- Supports SSP, SMP, STP and SATA protocols
- Consistency Check
- Hot Spare Support
- S.M.A.R.T. error detection
- Supports SSDs, HDDs and tape drives
- Environmentally-friendly due to low power consumption

KEY ADVANTAGES

- **Fast performance with 6Gb/s data transfer rates**
- **Industry's highest connectivity for external connections**
- **PCI Express 2.0 host interface drives superior system performance**
- **Flexible SATA+SAS array support optimizes costs**
- **Fusion-MPT™ Architecture delivers more than 400,000 I/Os per second**

6Gb/s SATA+SAS Advantage

The LSI SAS 9200-16e host bus adapter (HBA) enables large-scale storage arrays through high-speed 6Gb/s ports, supporting up to 512 SATA and SAS physical devices. It bolsters high capacity external server storage RAID and non-RAID enclosures by pairing a x8 PCI Express 2.0 host interface with four external x4 SFF8088 Mini-SAS connectors.

6Gb/s SAS technology enhancements, such as End-to-End CRC, power management, and hot plug support, combine to produce an extremely powerful yet dependable solution. Additionally, the T-10 Protection Model delivers early detection of and recovery from data corruption and Spread Spectrum Clocking reduces EMI reductions. Other new features include greater signal integrity and longer cables using Decision Feedback Equalization and support for more sophisticated SAS topologies using Expander Self-discovery/Self-configuration.

Flexible to Fit Your Needs

LSI SATA+SAS HBAs build upon previous generations of industry-leading LSI SAS technology, delivering performance and power saving advantages along with the added assurance gained from robust interoperability testing. Built to handle the constantly changing and complex requirements of enterprise storage, LSI HBAs effortlessly manage the need for larger capacity, greater density and scalability.

The LSI SAS 9200-16e works easily with SATA and SAS, hard disk drives, solid state drives, and tape drives. It also doubles the performance of previous generation SATA+SAS HBAs and is optimal for driving cost-effective and reliable scalability in today's data centers.

Leading the Way

Since the inception of SAS, LSI has delivered innovative products across its extensive portfolio of controller ICs, expanders, HBAs, motherboard solutions and storage systems. By offering best-in-class SAS technologies, broad interoperability and single one-stop vendor support, the LSI SATA+SAS portfolio uniquely addresses the full spectrum of server,

LSI SAS 9200-16e

workstation and enterprise storage architecture requirements for implementing complete SAS solutions.

LSI has supplied leading edge serial technology to systems throughout the world for over seven generations, making LSI the most experienced enabler of serial interconnect for storage in the world. Integrators can be assured that their LSI adapter is providing the most advanced and robust serial technology available.

Operating System Support

The LSI SAS 9200-16e host bus adapter supports Microsoft® Windows®, Linux® (SuSE®, Red Hat®), Solaris®, and VMware operating systems. All OS drivers are backed by extensive testing and validation to ensure optimum system performance.

For a list of the most current supported drivers, visit lsichannelgateway.com/support..

LSI SAS 9200-16e HOST BUS ADAPTER		
PCI Bus	8-lane, 5 GT/s PCI Express 2.0	
PCI Modes	Bus Master DMA	
PCI Data Burst Transfer Rates	Half Duplex X8 PCIe 4000 MB/s	Full Duplex X8 PCIe 8000 MB/s
SAS Bandwidth	Half Duplex Single Lane – 600MB/s Wide port (2 lanes) – 1200MB/s Wide port (3 lanes) – 1800MB/s Wide port (4 lanes) – 2400MB/s Wide port (2x4) – 4800MB/s	Full Duplex Single lane – 1200MB/s Wide port (2 lanes) – 2400MB/s Wide port (4 lanes) – 4800MB/s
PCI Card Type	3.3V Add-in Card	
PCI Voltage	+12V ±10%	
PCI Form Factor	8.17" x 4.2"	
PCI Power	13.5W	
Brackets	Full Height	
Certification Level	PCI Express 2.0	
I/O Bus	4 x 4 6Gb/s SATA and SAS ports	
SAS Controller	LSISAS2116	
Connectors	External Four x4 Mini-SAS SFF8088	
Max Number of Physical Devices	Non-RAID	512
Environments	Operating 0°C to 60°C 5 to 90% Non-condensing	Storage -45°C to 105°C 5 to 90% Non-condensing
MTBF	>2,000,000 Hours	
Compliances	EMC: Class B-US (CFR 47, P15B); Canada (ICES-003); Japan (V-3/02.04); Europe (EN55022/EN55024); Australia/ New Zealand (AS/NZS 3548); Safety: EN60950	
OS Support	Microsoft® Windows®, Linux® (SuSE®, Red Hat®), Solaris®, VMware®. See www.lsi.com/support for details on versions.	
Ordering Information	LSI SAS 9200-16e Single Pack P/N: LSI00189	
Warranty	3 years, advanced replacement option, free advanced technical support at lsi.com/support	

For more information and sales office locations, please visit the LSI web sites at:
lsi.com **lsi.com/channel**

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